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# DRY SKIM MILK

*Its Value  
and use*

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# Dry Skim Milk—Its Value and Use

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**M**ILK IS regarded as our most nearly perfect food. Since it contains most of the necessary food elements, it should form an important part in every family's daily diet. Probably the chief disadvantages of fluid milk are its bulkiness, due to the large amount of water it contains, and its perishability. Even these disadvantages have been reduced. Now a very useful and nourishing food is made from whole milk by removing the water and fat by modern methods. The result is dry skim milk, sometimes called "defatted milk solids," "powdered skim milk," or "dry milk solids."

Recently there has been a tremendous expansion in the manufacture of powdered milk of all kinds. Large shipments are being made under the lend-lease program. When the war emergency is over, production of dry skim milk probably will be continued, and large quantities of this valuable food will be available at a very low cost.

• Dry skim milk contains high-quality milk solids, other than fat. It is ready for use instantly any place, any time. It should not replace fresh whole milk, but it can be used whenever fresh skim milk is suitable. It is particularly adapted for:

1. Use in moderate cost diets.
2. Use when fluid milk is not available.
3. Use in increasing the food value of cooked products where fresh milk is also used. In this way the nonfat solids of milk can be increased in foods to a greater extent than is possible with fluid milk.
4. Use in emergencies in family cooking.
5. Use for camping, field trips, and community meals.

## Types of Dry Skim Milk

• Dry skim milk is commonly manufactured by either the **spray** or the **roller and vacuum drum** process. Either process develops a high-grade product. Both products are creamy white, but spray-process milk is finely powdered while roller-process milk is finely granulated. The reconstructed spray-process milk is smoother and more frothy and may be a lighter cream color.

Dry skim milk has a slightly "cooked" or "boiled milk" odor and flavor. This may be more pronounced in roller- than in spray-process milk. However, there is no decided difference in flavor, and rarely can the flavor of dry milk be detected in the cooked product. Generally speaking, either kind of dry skim milk can be used interchangeably according to the recipes given.

Spray-process milk mixes with water to form a product identical in appearance to fresh skim milk. A portion of reconstructed roller-process milk settles out on standing.

Dry skim milk, suitable only for animal consumption, has been sold by the sack for some time. It is made from sour milk or buttermilk by the drum process under conditions not as well controlled as those used for making human food.



## Composition and Value of Dry Skim Milk

- **Milk Sugar or Lactose** (51 per cent)—Lactose is an excellent source of energy. It gives dry skim milk a slightly sweet taste.
- **Protein** (37 per cent)—Milk protein is a "complete" protein, valuable because it supports growth and maintains life through body building and repair.
- **Minerals** (8 per cent)—Calcium, phosphorus, and several other essential minerals in smaller quantities are present in dry skim milk. These minerals are necessary for bone and tooth structure and are an essential part of the body tissues and fluids.
- **Vitamin B Complex**—Dry skim milk apparently contains all of the vitamins of the B complex and is especially rich in riboflavin. These vitamins are important to good general health, greatly affecting growth and the utilization of carbohydrates for energy.
- **Fat** (1 per cent)—
- **Moisture** (3 per cent)—Since the water and the fat soluble substances have been removed in manufacture, practically all the Vitamin A and butterfat originally present in whole milk are lacking in dry skim milk.

## Storage of Dry Skim Milk

Dry skim milk is easily stored. It does not require refrigeration. It keeps indefinitely if moisture, air, and light are excluded. Store it in an air-tight container that keeps out light. Keep in a dry, clean, and reasonably cool place. If exposed to air, dry skim milk may absorb moisture, become lumpy, and change flavor. A friction top metal container, such as a sirup pail or a fruit jar wrapped in dark paper, is very suitable for storage.

## Mixing or Reconstructing Dry Skim Milk

Dry skim milk is reconstructed most quickly with lukewarm water (85° to 90°F.). If a slightly longer time is allowed, it will mix with cold or hot water. However, it is likely to lump if placed in boiling water. Two possible methods of making fluid milk from dry skim milk are:

1. Measure the water into a bowl or pan. (**Do not** put the dry skim milk into the pan first.) Sprinkle the proper amount of dry skim milk over it according to table 1 or the recipe which is being used. Beat for about one-half minute until the milk is mixed. A rotary beater is preferred but others may be used. The spray-process milk will have a good deal of foam, while the roller-process milk will have little foam.
2. Measure three cups of water into a mason jar. Sprinkle one-half to three-fourths cup of powdered milk over the water, cover, and shake well until dissolved. This method is recommended when several cups are needed. The jar can be placed in the refrigerator and the milk used as needed.

Table 1. Reconstruction or Mixing Table\*

Water	Amount of Dry Skim Milk To Use:	
	For simple measuring	For mixture equivalent to fluid skim milk
1 cup.....	¼ cup	3 tbsp.
1 pint.....	½ cup	6 tbsp.
1 quart.....	1 cup	¾ cup
1 gallon.....	1 quart	3 cups

\* The yield is approximately the same as the amount of water used.



## General Suggestions for Using Dry Skim Milk

1. Dry skim milk may be used in its powdered or granulated form, or it can be mixed with water (reconstructed) and used like fluid milk. It is generally better for the homemaker to reconstruct the milk. In most products that have a large amount of liquid, such as white sauce and soups, mix the dry skim milk with water first and then add it to the other ingredients. In products like baking powder biscuits, muffins, and griddle cakes, the dry skim milk may be mixed with the larger amount of dry ingredients and water used as the liquid.
2. Dry skim milk scorches very easily. Therefore, if milk is used directly over the heat, keep heat low. If possible, use a double boiler.
3. For better consistency and flavor serve soups and sauces made with dry skim milk immediately after cooking.
4. Dry skim milk can be soured by adding a small portion of sour buttermilk. Reconstruct the dry skim milk by adding the powdered milk to the water, and add 1 tablespoonful of sour buttermilk to a quart of reconstructed skim milk and let stand at room temperature until sour (24 to 48 hours). Use it in your favorite recipe that calls for sour skim milk.
5. To increase the food value of products, extra dry skim milk may be added to the water or fluid fresh milk. Some possibilities are:
  - *Breads, cakes, cookies, biscuits, griddle cakes, and waffles*—Reduce the flour 2 tablespoons to each cup and substitute 2 tablespoons dry skim milk. Sift milk with dry ingredients.
  - *Cereals*—Add up to one-half cup dry skim milk to the fine-grained cereals before cooking.
  - *Cocoa, custard, cream puddings, and cereal puddings*—Add up to 3 tablespoons dry skim milk to each cup of liquid.
  - *French toast*—Add up to one-fourth cup for each cup of liquid.
  - *Gravies, white sauces, and soups*—Add up to 3 tablespoons to each cup of liquid. It is best to reconstruct the milk.
  - *Mashed vegetables*—Reconstruct milk with a little water or vegetable cooking water. Add to vegetable, using 3 tablespoons to each cup of vegetable.
6. The recipes which follow are basic and easy to follow and have been planned for everyday family use. There are many other food products which can be made with dry skim milk which are equally successful. When trying some new product, reconstruct the dry skim milk and use like fluid milk. If whole milk has been used in a recipe, a little extra fat may be needed (approximately one-half tablespoon for each cup of liquid used).

## Recipes for Using Dry Skim Milk

- The following recipes have been carefully tested in the University of Minnesota home economics foods laboratory and especially worked out for using dry skim milk. All recipes have been developed with standard **level** measurements and are generally based on four servings. A standard measuring cup is an accurate one-half pint measure, which is equivalent to 16 level tablespoons. A standard tablespoon (tbsp.) is equivalent to 3 teaspoons (tsp.).



**Cocoa**

- 3 tbsp. sugar
- 3 tbsp. cocoa
- ½ tsp. cornstarch
- ¼ tsp. salt
- 1½ tbsp. fat
- 3 cups water
- ½ cup dry skim milk
- 1 tsp. vanilla

minutes. Add the vanilla, beat again with rotary beater, and serve at once. Serves four.

**Note**—The fat and cornstarch can be omitted, but they give the cocoa a better color and consistency.

- Mix the sugar, cocoa, cornstarch, and salt in the top of a double boiler. Add 1 cup cold water slowly, stirring until a smooth paste is formed. Add the fat. Boil over direct heat for 3 minutes or until starch is thoroughly cooked, stirring well. Remove from the heat, add the other 2 cups of water, and mix well. Sprinkle the dry skim milk over the top and beat with a rotary beater until smooth. Place over hot water and heat in a covered double boiler for 7-10

**Chocolate Milk**

- ¾ cup chocolate sauce
- 3½ cups lukewarm water
- ¾ cup dry skim milk

- Pour the lukewarm water into a bowl. Measure the dry skim milk and sprinkle over the top. Beat well until the dry skim milk is thoroughly dissolved. Add the sauce and beat again. Serve cold. Makes four servings of 8 ounces each.

**Baking Powder Biscuits**

- 2 cups sifted, all-purpose flour
- 1 tsp. salt
- 4 tsp. baking powder
- 6 tbsp. dry skim milk
- 6 tbsp. fat
- 1 cup water

a lightly greased baking sheet. Let stand at room temperature 15 minutes before baking if a lighter product is desired. Bake 12 to 15 minutes in a moderately hot oven (425°F.). Makes 1½ dozen medium size biscuits.

- Sift the flour, salt, baking powder, and dry skim milk together. Work in the fat with the fingers or knives until the mixture is the size of small peas. Add the water and stir quickly until mixture thickens. Place on a lightly floured board. (If a fine grain is desired, knead lightly for about ½ minute.) Roll or pat to 1-inch thickness. Cut biscuits with a floured cutter and place on

**VARIATIONS**

- *Orange biscuits*—Add 2 teaspoons grated orange rind with the dry ingredients.
- *Jam biscuits*—After biscuits have been shaped and placed on baking sheet, make indentation with spoon and place jam in indentation.
- *Drop biscuits*—Spoon the mixed dough onto a greased baking sheet or into muffin tins without kneading.
- *Pinwheel biscuits*—Roll out the dough to ½ inch thickness. Spread with melted butter, mixed cinnamon, and sugar. Roll up and cut into cinnamon rolls.



## Coffee Cake

1 egg  
½ cup sugar  
½ cup water  
3 tbsp. fat, melted  
1 cup sifted all-purpose flour  
½ tsp. salt  
2 tsp. baking powder  
2 tbsp. dry skim milk

### Topping

¼ cup brown sugar  
1 tsp. cinnamon  
1 tbsp. flour  
1 tbsp. melted butter

• Beat the egg until light and fluffy. Add the sugar, water, and cooled shortening. Mix well. Add the flour, sifted with the salt, baking powder, and dry skim milk. Mix well and place in greased pan. Sprinkle topping evenly over dough. Bake in a moderately hot oven (350°F.) for about ½ hour in a pan 8 inches square. Serve while still warm.

## Gingerbread

1½ cups sifted all-purpose flour  
2 tsp. baking powder  
¼ tsp. soda  
½ tsp. salt  
2 tbsp. dry skim milk  
¼ tsp. ginger  
¼ tsp. cloves  
½ tsp. cinnamon  
5 tbsp. fat  
¼ cup sugar  
1 egg, well beaten  
½ cup molasses  
½ cup water

• Sift the flour, baking powder, soda, salt, dry skim milk, ginger, cloves, and cinnamon together. Cream fat and sugar until well blended. Add the beaten egg. Combine the molasses and water and add alternately with the dry ingredients. Pour into well greased pan 8 inches square. Bake in a moderately hot oven (350°F.) about 35 minutes.

## Griddle Cakes

1 cup lukewarm water  
3 tbsp. dry skim milk  
3 tbsp. melted fat  
1 egg, beaten  
2½ tsp. baking powder  
1 cup sifted all-purpose flour  
1 tbsp. sugar  
½ tsp. salt

• Pour the warm water into a bowl. Sprinkle the dry skim milk over the water and beat with a rotary beater until the milk is dissolved. Sift the dry ingredients thoroughly. Combine the egg and milk and melted fat. Add the flour mixture gradually, beating to a smooth batter. Drop the griddle cake batter on a hot, greased griddle. Bake, turning each cake when it is browned on the under side and puffed and slightly set on top. Serve at once. Makes 12 to 15 griddle cakes.

**Variation**—½ teaspoon vanilla may be added to the batter.



**White Muffins**

1 cup water  
 3 tbsp. dry skim milk  
 2 cups sifted all-purpose flour  
 2 tbsp. sugar

4 tsp. baking powder  
 ½ tsp. salt  
 1 egg, well beaten  
 3 tbsp. fat, melted

**Corn Meal Muffins**

1 cup water  
 3 tbsp. dry skim milk  
 1¼ cups sifted all-purpose flour  
 ½ cup corn meal  
 2 tbsp. sugar  
 4 tsp. baking powder  
 ½ tsp. salt  
 1 egg, well beaten  
 3 tbsp. fat, melted

**Bran Muffins**

1 cup water  
 3 tbsp. dry skim milk  
 1½ cups sifted all-purpose flour  
 ¾ cup bran flakes (for baking)  
 1 tbsp. baking powder  
 ⅛ tsp. soda  
 ½ tsp. salt  
 1 egg, well beaten  
 ¼ cup molasses (add with liquid ingredients)  
 3 tbsp. fat, melted

• Pour the water into a bowl. Sprinkle the dry skim milk over the water and beat with a rotary beater until the milk is dissolved. Sift the dry ingredients thoroughly. Combine the well beaten egg, milk, and slightly cooled melted shortening. Turn into dry ingredients and stir just enough to combine. Mixture has a rough appearance. Fill greased muffin tins two thirds full, handling batter as little as possible. Bake in a hot oven (400°F.) for about 20 minutes. Makes 12 medium-sized or 16 small muffins.

In making muffins, the dry skim milk may be sifted with the dry ingredients rather than mixed with the water.

• *Bacon Muffins*—Use bacon fat for shortening and add ½ cup finely chopped, crisp cooked bacon to the white muffins.

**Oatmeal Bread**

2 cups lukewarm water  
 ½ cup dry skim milk  
 2 tbsp. shortening  
 1½ tsp. salt  
 ½ cup molasses, mildly flavored  
 2 cups oatmeal (regular)  
 1 cake yeast dissolved in  
 ¼ cup lukewarm water  
 5 cups sifted all-purpose flour (approximately)

• Pour the water in top of double boiler and place over hot water. Add the dry skim milk and beat with a rotary beater until the milk is dissolved (about 1 minute). Add to this the shortening, salt, and molasses. When these are dissolved and the milk scalded, pour over the oatmeal. Let stand until lukewarm (80-85°F.). Soften the yeast in the ¼ cup lukewarm water. Add to the first mixture. Beat in about 2½ cups white flour until mixture is very smooth. Add enough of the remaining flour, a little at a

time, to make the dough handle easily. Knead on a lightly floured board until smooth and air bubbles are evenly distributed. Return to a greased bowl, lightly grease the top of dough, cover, and let rise to double in bulk. Punch down and let rise again to double in bulk. Shape into loaves, place in two greased pans (8 x 5 x 3½ inches), lightly top with softened fat, and let stand in a warm place until double in bulk. Bake in a moderately hot oven (400°F.) for 45 to 60 minutes. Makes two loaves.



## Refrigerator Rolls

- 2 cups lukewarm water
- ½ cup dry skim milk
- ¼ cup sugar or 2 tbsp. sugar  
and 2 tbsp. light corn sirup
- 1 tsp. salt
- 3 tbsp. fat
- 1 cake compressed yeast
- 1 egg, beaten
- 7 to 7½ cups sifted all-purpose  
flour

• Pour the lukewarm water into the top of a double boiler. Sprinkle over it the dry skim milk and beat with a rotary beater until milk powder is dissolved. Place over hot water, add the sugar, sirup, salt, and fat. When these are dissolved and the milk is scalded, cool to lukewarm (80-85°F.). Crumble the yeast into a bowl. Pour over it about ½ cup of the cooled milk mixture and stir until yeast is dissolved. Add the remainder of the milk mixture, the egg, then the flour, a little at a time, beating it in well. Cover and let stand in mixing bowl at room tem-

perature until double in bulk. Punch down. Cover tightly and place in refrigerator. This dough can stand indefinitely in refrigerator until ready to use. Remove from refrigerator and shape in any desired standard shaped roll. Let rise to double or more in bulk. Bake in 425°F. oven for 10 to 15 minutes depending on size of rolls. Time to be allowed from removal from refrigerator until ready for serving is about 3 hours. Makes 4 dozen medium sized rolls.

## White Bread

- 3 cups lukewarm water
- ½ cup dry skim milk
- 6 tbsp. sugar
- 1 tbsp. salt
- 3 tbsp. fat
- 1 cake compressed yeast
- 8½ to 9 cups sifted all-purpose  
flour

• Pour the 3 cups lukewarm water into the top of a double boiler. Sprinkle the dry skim milk over it and beat with a rotary beater until milk is dissolved. Place over hot water and add the sugar, salt, and fat. When these are dissolved and milk is scalded, cool to lukewarm (80-85°F.). Crumble the yeast into a bowl. Pour over it about ½ cup of the cooled milk mixture and stir well until yeast is dissolved. Add the remainder

of the milk mixture. Add 4 cups flour and beat thoroughly until very smooth. Add the remaining flour gradually and mix into a dough that is not stiff but can be handled easily. Knead on a lightly floured board until the dough is smooth and the air bubbles are evenly distributed. Return to a greased bowl and lightly grease top of dough. Cover and let rise to double in bulk. Punch down and let rise again to double in bulk. Shape into loaves, place into three greased pans (8 x 5 x 3½ inches), lightly top with softened fat, and let stand in a warm place until double in bulk. Bake in a moderately hot oven (400°F.) for 45 to 60 minutes. Makes three loaves.

**Note**—Dried or liquid yeast may be used. Follow directions on commercial package for use.

## VARIATIONS

- *Rye or Graham Bread*—Any amount between 2 to 6 cups of rye or graham flour may be used in place of some of the white flour depending on the texture and flavor desired.
- *Whole Wheat Bread*—For a compact whole wheat bread use 4½ cups whole wheat flour and approximately 3 cups white flour for the three loaves of bread.



## Cereals

- 3 cups water
- $\frac{1}{3}$  cup dry skim milk
- $\frac{3}{4}$  tsp. salt ( $\frac{1}{2}$  tsp. for quick and rolled oats)

Any one of these:

- $\frac{1}{2}$  cup corn meal
- $\frac{3}{4}$  cup cracked wheat
- $1\frac{1}{2}$  cups quick oats
- $\frac{3}{4}$  cup rice
- 1 cup rolled oats

• *Method 1*—Boil  $1\frac{1}{2}$  cups of water in the top part of a double boiler. Add the salt and then the cereal gradually, stirring with a fork. Cook over direct heat until thick. Place over hot water in double boiler. Reconstruct the milk by sprinkling the dry skim milk on top of another  $1\frac{1}{2}$  cups of water. Add this to the thickened cereal and mix well. Cover and cook the remaining time in the double boiler.

• *Method 2*—Mix the cereal, dry skim milk, and salt. Pour this gradually into the boiling water, stirring well. Cook until thick. Place over hot water in double boiler and

finish cooking for the remainder of the time. This method, although simple, takes more careful stirring as the product scorches easily. It is recommended for finely ground cereals only.

**Note**—These mixtures make four servings of  $\frac{3}{4}$  cup each. The time in the double boiler is 1 hour for all the cereals except cracked wheat which may vary from 2 to 4 hours.

## Two Egg Cake

- $\frac{3}{8}$  cup water
- 2 tbsp. dry skim milk
- $\frac{7}{8}$  cup sugar
- $\frac{1}{2}$  cup butter or other fat
- 2 eggs
- 2 cups cake flour
- $2\frac{1}{2}$  tsp. baking powder
- $\frac{1}{4}$  tsp. salt
- 1 tsp. vanilla

tion. Thoroughly fold in beaten egg whites. Turn into a greased pan and bake in a moderate oven ( $350^{\circ}\text{F.}$ ) Makes one 9-inch square, two 9-inch layers, or 20 cup cakes.

• Place the water in a bowl. Sprinkle the dry skim milk over the water and beat with a rotary beater until the milk is thoroughly dissolved. Sift the flour once, measure, add the baking powder and salt, and sift together. Cream the shortening thoroughly, add the sugar gradually, creaming together until well blended and light. Add the flavoring and well beaten egg yolks, beating thoroughly. Add the flour mixture alternately with the milk, stirring until smooth after each addition.

## VARIATIONS

- *Orange cocoanut cake*—Flavor with 1 tablespoon grated orange rind instead of vanilla. Substitute orange juice for half the water. Decorate the frosted cake with 1 cup shredded cocoanut.
- *Spice Cake*—Add  $\frac{1}{2}$  teaspoon cloves, 1 teaspoon cinnamon, and  $\frac{1}{2}$  teaspoon allspice to the dry ingredients.
- *Marble Cake*—Divide the batter into two parts and add 1 to 2 squares chocolate (melted) to one part. Put the two mixtures into a greased pan alternately by spoonfuls. Do not mix, but smooth over top.



### Chocolate Drop Cookies

- ½ cup fat
- 1 cup brown sugar
- 1 egg, well beaten
- 2 squares chocolate, melted
- ½ cup water
- 1 tsp. vanilla
- 1¼ cups sifted all-purpose flour
- 1 tsp. baking powder
- ¼ tsp. soda
- ½ tsp. salt
- 3 tbsps. dry skim milk

• Cream the fat, add the brown sugar a little at a time, and cream thoroughly together. Add the well beaten egg and the melted chocolate. Mix thoroughly. Sift the flour, baking powder, soda, salt, and dry skim milk together. Add these sifted dry ingredients alternately with the water and vanilla to the first mixture. Drop by spoonfuls onto a well greased cookie sheet. Bake at 375°F. for about 15 minutes. Cool and frost with a quick cocoa frosting. Makes 3½ dozen medium sized cookies.

### Cocoa Frosting

- 3 tbsps. dry skim milk
- 3 tbsps. cocoa
- ¾ cup powdered sugar
- ¼ tsp. salt
- 2 tbsps. light corn sirup
- 2 tbsps. hot water
- 2 tbsps. melted butter
- ½ tsp. vanilla

• Mix and sift the dry skim milk, cocoa, powdered sugar, and salt together. Pour the corn sirup, hot water, melted butter, and vanilla into a bowl and add the sifted dry ingredients a little at a time. Cream well together. Spread onto the cooled cookies. Sufficient to frost 3½ dozen chocolate cookies.

### Chewy Fruit Nut Bars

- 2 eggs
- ¾ cup corn sirup
- 1 tsp. vanilla
- 1 cup sifted all-purpose flour
- ¾ tsp. baking powder
- ¼ tsp. salt
- 3 tbsps. dry skim milk
- ½ cup nuts (any kind), chopped
- 1 cup dates, chopped

• Beat eggs, add sirup and vanilla. Mix well. Sift flour, baking powder, salt, and dry skim milk together. Add this to the mixture of egg and sirup. Add the fruit and nuts and fold in all together. Pour into two 7- or 8-inch square pans or into a pan where the dough can be approximately ½ inch in thickness before baking. Bake in 350°F. oven 20 to 30 minutes. Let stand about 3 minutes after removal from oven. Then cut in bars 1½ x 2 inches. If desired, they can be rolled in powdered sugar. Makes 2½ dozen bars.

### Rice Custard Pudding

- 2 cups lukewarm water
- 6 tbsps. dry skim milk
- 2 large or 3 small eggs
- ¼ cup sugar
- ¼ tsp. salt
- 2 cups cooked rice (about ½ cup when uncooked)
- ¼ cup seedless raisins
- 1 tsp. vanilla
- 1/16 tsp. cinnamon

• Pour the water into a baking dish 7 or 8 inches in diameter. Sprinkle over it the dry skim milk. Beat with a rotary beater until smooth and powdered milk has dissolved. To this add the eggs and sugar. Beat well again with a rotary beater. Add the rice, which has been carefully cooked until light and fluffy, the vanilla, and the raisins. Sprinkle the cinnamon on top of the pudding. Bake in a moderate oven (325°F.) for about 1½ to 2 hours or until a knife inserted in the center of the pudding comes out clean.



**Cream Pudding or Pie Filling**

- 2½ cups water
- ½ cup dry skim milk
- 2 egg yolks
- ½ to ¾ cup sugar
- ½ tsp. salt
- ¼ cup cornstarch
- 1 tsp. vanilla
- 2 tbsp. butter

• Pour 1 cup of water into a bowl. Sprinkle the dry skim milk over the top and beat with a rotary beater until the milk powder has dissolved. Add the unbeaten egg yolks to the milk and beat until well mixed. Let stand in bowl. Mix the sugar, salt, and cornstarch together in the top of a double boiler. Slowly add 1½ cups cold water to the mixture and stir until smooth. Cook over the direct heat, stirring constantly until thick, smooth, and clear. Place over hot water.

Add the milk and egg mixture. Cook in a double boiler until the egg has cooked, stirring constantly. Add the vanilla and butter and mix well. For pie filling, cool slightly and then pour into a baked pie shell. For individual puddings, turn into individual molds which have been rinsed in cold water. Chill until firm. Makes 5 puddings of ½ cup each or filling for an 8-inch pie.

**VARIATIONS**

- *Banana Cream*—Partially cool the pudding mixture. Add the sliced bananas. Garnish pudding or pie with whipped cream.
- *Shredded Coconut*—Fold dried, fresh, or toasted coconut into the mixture. Toasted nuts of any kind may be used in this way.
- Fold dried fruit such as dates, partially cooked prunes, or raisins, into the partially cooled mixture.
- *Lemon or Orange Pudding*—Add 3 tablespoons juice and the rind of one lemon or orange to the mixture. Omit the vanilla.
- *Berries or fruit*, such as peaches, canned or fresh, make a tasty garnish to these puddings.
- Stiffly beaten egg whites may be folded into the mixture while it is still in the double boiler. This makes a fluffier product. The whole egg may be used instead of the two egg yolks. The egg whites may be used as a meringue topping on the pie.

**Baked Custard**

- 2 cups lukewarm water
- 6 tbsp. dry skim milk
- 2 large or 3 small eggs
- ¼ cup sugar
- ⅛ tsp. salt
- ½ tsp. vanilla
- Few grains nutmeg or cinnamon (optional)

• Sprinkle the dry skim milk over the water in a bowl and beat with a rotary beater until smooth. Add the unbeaten egg, sugar, salt, and vanilla and beat until well mixed. Pour into ungreased custard cups. Sprinkle with the spice. Place in a baking pan of hot but not boiling water, having the water the same level as the custard mixture. Bake in a moderately slow oven (325°F.) for about 1 hour or until a knife placed in the center comes out clean. Chill. Unmold just before serving. Makes 4 to 6 cups of custard.



## Soft Custard

- 2 cups lukewarm water
- 6 tbsp. dry skim milk
- 2 large or 3 small eggs
- $\frac{1}{4}$  cup sugar
- $\frac{1}{8}$  tsp. salt
- $\frac{1}{2}$  tsp. vanilla

• Pour the water into a bowl and sprinkle the dry skim milk over it. Beat with a rotary beater until smooth. To this add the sugar and unbeaten egg and beat with the rotary beater. Cook over hot but not boiling water, constantly stirring until the mixture forms a coating on a metal spoon. Add salt and flavoring. Pour into a cool serving dish or set in a pan of cold water at once. Serves four,  $\frac{1}{2}$  cup each.

## Chocolate Pudding or Pie Filling

- 1 cup lukewarm water
- $\frac{1}{2}$  cup dry skim milk
- 2 egg yolks
- $\frac{1}{2}$  cup sugar
- $\frac{1}{2}$  tsp. salt
- $\frac{1}{4}$  cup corn starch
- 2 cups cold water
- 2 squares chocolate
- 2 tbsp. butter
- 1 tsp. vanilla

• Pour the 1 cup of lukewarm water into a bowl. Sprinkle the dry skim milk over the top. Beat with a rotary beater until the milk powder is dissolved. Add the unbeaten egg yolks to the milk and beat again until well mixed. Let stand in bowl. Mix the sugar, salt, and cornstarch together in the top of a double boiler. Slowly add the 2 cups of cold water to this mixture, stirring until smooth. Cook over direct heat, stirring constantly, until the mixture is thick, smooth, and transparent. Remove from the heat. Add the chocolate and stir until melted. Place over hot water. Add the first mixture of milk

and eggs, stirring constantly until the egg has thickened. Add vanilla and butter, beating mixture while so doing. Turn into individual molds which have been rinsed in cold water, or if used as a pie filling, cool slightly and pour into a baked pie shell. The whites of the eggs can be used as a meringue topping for the chocolate pie. Makes 6 puddings or fills one 8-inch pie shell.

## Ham Loaf

- $\frac{1}{4}$  lb. ground beef
- $\frac{1}{4}$  lb. ground pork
- $\frac{1}{4}$  lb. ground ham
- $\frac{1}{4}$  cup dry skim milk
- $\frac{1}{2}$  cup fine bread crumbs
- $\frac{3}{4}$  tsp. salt
- 1 egg, beaten
- $1\frac{1}{2}$  cups tomato juice

• Mix the crumbs and dry skim milk. Add the remaining ingredients and mix well. Place in well greased loaf pan. Bake in a moderate oven (350°F.) about  $1\frac{1}{2}$  hours. Makes four servings.

## Meat Balls

- 1 lb. ground beef
- $\frac{1}{4}$  cup dry skim milk
- $\frac{1}{2}$  cup fine bread crumbs
- 1 tbsp. grated onion
- 1 egg, beaten
- $\frac{3}{4}$  cup water
- $1\frac{1}{4}$  tsp. salt
- Fine crumbs for rolling

• Mix the crumbs and milk. Add the remaining ingredients and mix thoroughly. Shape into small balls and roll in crumbs. Fry in small quantity of fat until brown. Cover and cook an additional 15 minutes. Serves four.



## Gravy

- 2 tbsp. drippings
- 1½ tbsp. flour
- ½ tsp. salt
- ½ cup dry skim milk
- 1½ cups water

• Pour the water into a bowl. Sprinkle the dry skim milk over it and beat with a rotary beater until the milk has dissolved. Add the flour to the hot drippings and mix until a smooth paste is formed. Slowly add the milk mixture and cook over the direct heat until the consistency of a thin white sauce, stirring constantly. Add the salt and serve. Serves four.

## White Sauce (Medium)

- 1 cup lukewarm water
- 3 tbsp. dry skim milk
- 2 tbsp. butter or other fat
- 1½ tbsp. flour
- ¼ tsp. salt

• Sprinkle the dry skim milk over the water and beat with a rotary beater until smooth. Melt the fat in the top of the double boiler directly over the heat. Add the flour and blend thoroughly. Add the reconstructed milk to the fat and flour mixture stirring constantly while cooking over the direct heat.

When mixture has thickened, place over hot water and cook covered in a double boiler for 10 minutes. Add salt. Keep covered until served. Makes 1 cup.

## VARIATIONS

- *Thin white sauce*—Use ½ to 1 tablespoon flour for each cup of water.
- *Thick white sauce*—Use 2 to 3 tablespoons flour for each cup of water.
- *Cheese sauce*—Add ¼ cup chopped or grated strong sharp cheese or ⅓ cup mild cheese to the cooked medium or thin white sauce. Heat slowly just long enough to melt the cheese, stirring constantly.
- *Tomato sauce*—Add ½ cup thick strained tomato or ¼ cup tomato paste to the cooked medium or thin white sauce.

## Cooked Salad Dressing

- ¾ cup water
- ¼ cup dry skim milk
- 3 tbsp. butter
- 3 tbsp. flour
- ¼ cup vinegar
- 1 tbsp. sugar
- 1 tsp. mustard
- ⅛ tsp. paprika
- 2 eggs or 4 yolks

• Sprinkle the dry skim milk over the water and beat with a rotary beater until smooth. Melt the fat in the top of a double boiler directly over the heat. Add the flour to the fat and blend thoroughly. Add the reconstructed milk to the fat and flour mixture stirring constantly while cooking over the direct heat. When the mixture has thickened to the consistency of a medium white sauce, place over hot water and slowly add the vinegar, salt, sugar, mustard, and paprika which have been mixed together. Beat the

eggs. Remove the mixture from the heat and slowly pour it into the beaten eggs, stirring to combine thoroughly. Return to cook in double boiler only until eggs thicken. Stir constantly. Beat with a rotary beater. Store in a covered container like a pint Mason jar in the refrigerator. Makes 1½ cups.

**Note**—The seasoning may be increased or cut down according to individual taste. This dressing can be used as it is or thinned with cream or mixed with whipped or sour cream.



## Chocolate Sauce

- 2 squares chocolate
- ½ cup sugar
- ¼ tsp. salt
- speck cinnamon
- ½ cup dry skim milk
- 1 tsp. corn starch (optional)
- 1 cup lukewarm water
- 2 tbsps. butter
- ½ tsp. vanilla

• Melt the chocolate in a double boiler. Thoroughly mix the sugar, salt, cinnamon, dry skim milk, and corn starch and add to the chocolate. Slowly add ½ cup of lukewarm water and stir until smooth. Add the remainder of the water and stir well again until free from any lumps. Cook directly over low heat stirring constantly until mixture is the thickness of medium white sauce. Place over hot water, add the butter, stir, cover, and cook for 15 minutes. Add the vanilla and mix thoroughly. Keep on hand to serve hot or cold. Use with reconstructed dry skim milk for chocolate milk. Makes 1½ cups.

## Cream Soup Base

- 3 cups lukewarm water
- ¾ cup dry skim milk
- ¼ cup butter or other fat
- 3 tbsps. flour
- ¾ tsp. salt
- 1½ cups vegetable, meat, or fish

• Sprinkle the dry skim milk over the water and beat with a rotary beater until smooth. Melt the fat in the top part of a double boiler directly over the heat. Add the flour and blend thoroughly. Add the reconstructed milk to the fat and flour mixture stirring constantly while cooking over low direct heat. When the mixture has thickened, place over hot water and cook in

a covered double boiler for 10 minutes. Add the salt and hot cooked vegetables. Makes four servings of 1 cup each.

**Note**—The liquid from the vegetables or meat stock may be substituted for part or all of the water.

Use only 2 tablespoons flour instead of 3 tablespoons flour when making potato, corn, or bean soup.

## VARIATIONS

- *Celery*—Cook 1½ cups finely cut celery with 1 tablespoon chopped onion and 1 tablespoon shredded celery leaves in a small amount of water.
- *Corn*—2½ cups cream style corn and 1 slice of onion, finely chopped.
- *Meat*—A small amount of leftover meat or fish may be mixed with any combination of vegetables to make a tasty soup.
- *Onion*—Cook 4 diced onions until tender. Drain and brown lightly in 2 tablespoons of butter.
- *Potato*—Cook 1½ cups diced potatoes, 1 tablespoon finely chopped onion, parsley, and 3 tablespoons celery. Add 2 tablespoons finely diced cooked bacon.
- *Spinach*—Put 1½ cups raw spinach through the food chopper, using a fine blade. Add the white sauce and cook 5 minutes.
- *Tomato*—Slowly add 1½ cups thick tomato puree to the white sauce. To avoid curdling, do not combine until ready to serve.
- *Vegetable*—Use a combination of finely cut cooked vegetables. Any pureed or finely cut vegetable may be added to the white sauce. Use the vegetable juice in making the white sauce.



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